

REMARKS

In response to the Office Action mailed on July 11, 2008, Applicant respectfully requests reconsideration. To expedite prosecution of this Application, Applicant submits the following remarks discussing patentability of rejected claims.

Applicant encourages the Examiner to call the undersigned Attorney for an interview to discuss the pending claims. Although Applicant does not believe it is necessary, to expedite this case to allowance, the Applicant may be amenable to amending pending independent claims with one or more of the limitations such as those in claims 13-15 and claims 32-37 as discussed below. Applicant has requested an interview with the Examiner on September 16, 2008 to discuss some of the pending claims.

Objection to Claims 7-12 and Claims 22-27

Applicants are appreciative of the Examiner's review of the pending claims and allowance of claims 7-12 and 22-27.

Objection to Figures

The office action includes an objection to the figures and claims 1-37. Applicant respectfully submits that, contrary to the Examiner's assertion, there is no rule that all text in the claims be included in respective steps of a flowchart in a non-provisional patent application. The only requirement is that the drawings and corresponding text in a non-provisional application be fully enabling of every feature of the invention specified in the claims. All of the claims are fully supported by both the original figures and corresponding text. Accordingly, the Examiner's objection and assertion that the figures should be amended is improper.

Rejection of Claims 31-37 under 35 U.S.C. §112(a)

The Examiner rejects claims 31-37 under 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention. Applicant respectfully disagrees with this assertion.

With regard to the rejection of claim 31, Applicant respectfully traverses the rejection because the claims are not indefinite. The claim clearly indicates that the recited data collection agent is one of multiple agents operating in a storage area network environment. Additionally, the claim clearly indicates that at least one summary record is transferred from the data collection agent to the storage management application. Moreover, the claim clearly indicates that the storage management application is configured to receive input from the multiple data collection agents. The claim also clearly indicates transferring of the at least one summary record from the data collection agent to the storage management application. Accordingly, the rejection of claim 31 is improper.

With regard to the rejection of claims 32-37, Applicant respectfully traverses the rejection because the claims are not indefinite. The Examiner seems to assert that the claims are directed to, in the Examiner's words, a "summary of storage information" and that such support was not found in the specification. Applicants are uncertain what the Examiner means by saying that the cited portions of the specification are directed to "file system summary of life span." As discussed below, the specification is replete with a discussion of creating storage information such as summary reports or summary records.

Contrary to the Examiner's assertion, the limitations in previously pending claims 32-37 are definite. Moreover, the cited portions as well as uncited portions of the specification are replete with discussions of how agents create so-called summary records or reports based on collection of data.

For example, at page 10, lines 23-30, the Applicant's specification recites:

Once the agents configured in accordance with embodiments of the invention have collected and processed the file system metadata (i.e., to calculate values such as those in the above example), the agents produce one or more summary report records that contain the results of the agent pre-processing calculations.

At page 10, lines 23-30, the Applicant's specification recites:

The agent collects storage information concerning the set of storage entities according to the data collection policy and processes the collected storage information to produce at least one summary record of the storage information for the set of storage entities. The summary record(s) contain a summary of the collected storage information for the set of storage entities calculated according to the data collection policy.

There are many other instances in the specification supporting the claims. Accordingly, the rejection of claims 32-37 is improper.

Rejection of Claim 1

The Examiner asserts that the collection agent 30 in Zahavi receives the policy file 42 as does the technique in claim 1. Applicant respectfully disagrees. There is no indication whatsoever that the collection agent 30 in Zahavi receives the policy file 42. Zahavi only discloses that the collection manager 38 (a central processing function) receives the policy file 42 and uses it to store collected data. As shown and discussed with respect to FIG. 3, the collection manager 38 in Zahavi uses command and control module 40 to send commands to collection agent 30 for retrieval of data.

Also, note that the collection manager 38 in Zahavi receives and processes raw data from the collection agent 30. For example, see column 7, lines 27-32, which recites that "The data manager component 44 of the collection manager performs computations (of derived metrics as described hereinafter), and builds flexibly configurable archives 46 of data received from the host resident collection agent(s) according to the user specified policy." Thus, Zahavi is a good prior art example illustrating how a central function collects data from agents and performs local computations at a centralized location to produce information for viewing by a user.

In contradistinction, the claimed invention recites that the data collection agent (not the central manager as in Zahavi) performs calculations on data to produce a summary report. There is no transformation of raw collected data at the agents in Zahavi to calculated results for producing a summary report.

Applicant respectfully submits that Therrien does not cure the deficiencies mentioned above with respect to Zahavi. In other words, Therrien also does not teach or suggest the claim limitations as discussed above.

Therrien shows an example of a protection policy in FIG. 4 and corresponding text. Therrien discloses use of a protection policy for protecting already stored data. The protection policy is not a policy for collection and forwarding of data to a manager as in the claimed invention. Thus, Therrien also does not teach or suggest that a data collection agent receives a data collection policy as in the claimed invention.

There is also no indication whatsoever that the protection policy in Therrien (or policy in Zahavi) specifies how to produce or is used to produce a summary report.

Therrien also does not disclose use of a data collection agent that produces a summary report, especially not one based on a received protection policy. Thus, Therrien also does not teach or suggest the claimed invention.

Use of the data collection policy at the data collection agent (as in the claimed invention and contrary to Zahavi and Therrien) enables the agent to collect data and, based on calculations at the agent, produce the summary record (e.g., a reduced set of data) as opposed to merely forwarding raw data to the storage manager application that would then have to process the collected data and produce a summary report. Because the agent collects data and produces the summary report, the agent according to the claimed invention can reduce how much traffic must be sent over a network from the agent to a collection manager that processes the data for presentation purposes. Additionally, at least part of the burden of processing the collected data is offloaded to the agent as opposed to having to be done by an entity to which the agent forwards the data.

Accordingly, Applicant requests allowance of claim 1 because it includes distinguishing patentable limitations over the cited prior art. For similar reasons, claims 16, and 31 are allowable as well. Note also that claim 31 includes limitations that the data collection agent is one of multiple agents operating in a storage area network that transmit collected information to a storage management application.

Rejection of Dependent Claims 13-15

The Examiner continues to reject claims 13-15 and 28-30 under 35 U.S.C. §103(a) as being obvious over Zahavi in view of Therrien, and in view of Gusler et al., U.S. Patent No. 6,938,057.

Each of claims 13-15 recites “applying averaging functions to the storage information related to the sizes and ages of files and directories within the files and directories.” To reject the limitation in the claimed invention, the Examiner cites Gusler at column 8 line 8, which reads as follows:

With reference again to step 700, if log entries are present, a determination is made as to whether log removal is to occur (step 712). This log removal step may be employed to remove log entries or log files when these log entries or files are older than some selected date or over a certain size. If log removal is to occur, the log entries are removed according to whatever policy has been employed (step 714). This policy can be based on the age of the log entries or the size of the log (i.e., number or entries), or by other factors. Thereafter, the process proceeds to step 702 as described above. The process also proceeds to step 702 if log entry removal is not to occur in step 712. (Emphasis Added)

The Examiner asserts that the above passage in Gusler discloses the limitation of applying averaging functions as in the claimed invention. Applicant disagrees with this assertion. Removal of a log entry based on its age or size is not equivalent or suggestive of the above claim limitation. For example, Gusler indicates that removal (i.e., non-use) of a log entry can produce a set of smaller set of log entries. The log entries are removed in Gusler when they get too old.

The claimed invention is not directed toward mere removal of log reports to produce a summary report. Instead, the claimed invention recites applying averaging functions to a chosen set of storage information to produce summary reports. More specifically, the claimed invention recites non-removal and use (not removal and elimination as in Gusler) of storage information related to sizes and ages to produce (e.g., derive) a size summary record and age summary record. Gusler does not derive or produce anything from the removed log entries. Thus, Gusler teaches away from the claimed invention and the rejection is improper.

Note also that the claimed invention recites producing a size summary record and an age summary record based on application of the “averaging” functions. As its name indicates to one of ordinary skill in the art, “averaging” and application of averaging functions includes deriving a quantity that represents an arithmetic mean of sizes and ages. Neither Gusler nor any other cited reference teaches or suggests producing a size summary record or an age summary record via application of averaging functions. For this additional reason, Gusler does not suggest the claimed invention in addition to the reasons as discussed above.

Accordingly, Applicant respectfully requests allowance of claim 13-15 as well as claims 28-30 as well as claims 28-30.

Rejection of Claims 32-37

The Examiner also continues to reject claims 34-36 based on Zahavi at FIG. 12, column 11, lines 11-21, which reads such as follows:

An example of the format of the configuration section of the header is presented below:

<CONFIGURATION: LOGICAL VOLUMES TABLE> 0x000, DEV000, R2:00-0xC0, NP:00-0x00, NP:00-0x00, HS:22-0xD2, 0xFFFF, 0, 0x001, DEV001, R2:31-0xD0, NP:00-0x00, NP:00-0x00, HS:22-0xD2, 0xFFFF, 0, 0x002,

Applicant is unable to make any logical sense how the above passage or any other passage in Zahavi teaches or suggests the limitations in the claimed invention.

More specifically, claim 34 recites "based on receipt of the data collection policy from the storage management application, configuring the data collection

agent as one of multiple software agents, each of which i) collects data from resources in the storage area network, ii) produces a summary report, and iii) forwards the summary report to the storage management application." There is no indication in Zahavi or Therrien that multiple agents receive a data collection policy and subsequently produce reports that are forwarded to a common storage management application.

Claim 35 recites " wherein processing the collected storage information includes substantially reducing an amount of the data collected by the data collection agent into corresponding statistical information for inclusion in the summary record." The office action cites FIG. 10 and column 10, lines 54-67 to reject the claimed invention. Applicants traverse the rejection because the cited passage does not recite an equivalent limitation as recited by claim 35. The passage starting at line 41 reads as follows:

The correlation component provides two modes of correlation. First is referred to as auto-correlation. In order to invoke auto-correlation the user selects a set of objects and an associated set of metrics then invokes the auto-correlation function. The result of this function is a table sorted by the coefficients of correlation for the list of objects and metrics selected, such as illustrated in FIG. 11. The user can then click on any of the coefficients and display a graph that visualizes the correlation between any two objects/metrics selected. The purpose of this function is to allow the user to select a single list of objects/metrics then calculate the probability of a strong dependency among any two items in the list.

The formula used, in this illustrative embodiment, to compute the linear coefficient of correlation is: ##EQU1##

This formula can be found in virtually any Probability and Statistics textbook.

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The second mode of correlation provides the user with the ability to select two independent lists of objects/metrics, and is illustrated in FIG. 12. In this mode, the coefficient of correlation for both lists can be computed. The output of this option is identical to that of the auto-correlation (FIG. 11). The benefit of this feature is that it allows the user to select data from two different machines for the same time period and then see if activity on one machine correlates with activity on the second machine: This could indicate a dependency of one machine on the other. (emphasis added)

Applicant respectfully disagrees with the assertion the cited passage is directed to processing data by an agent to reduce an amount of data collected by the agent. There is no indication whatsoever that the agent in Zahavi performs this function. Instead, the above passage in Zahavi indicates that this is a process performed by a display application that renders the graphical user interface as in FIG. 10 of Zahavi. The limitation of claim 35 refers to actions taken by an agent to reduce an amount of data that the agent transfers to a display application.

In a similar vein, claim 36 recites that the agent in the claimed invention applies arithmetic operations as specified by the received policy. None of the cited prior art discloses use of an agent that produces a summary report based on a received policy as in the claimed invention.

Claims 32 and 33 have also been rejected based on

The Examiner also continues to reject claims 32 and 33 based on Zahavi at FIG. 12, column 11, lines 11-21, which reads such as follows:

An example of the format of the configuration section of the header is presented below:

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<CONFIGURATION: LOGICAL VOLUMES TABLE> 0x000, DEV000, R2:00-0xC0, NP:00-0x00, NP:00-0x00, HS:22-0xD2, 0xFFFF, 0, 0x001, DEV001, R2:31-0xD0, NP:00-0x00, NP:00-0x00, HS:22-0xD2, 0xFFFF, 0, 0x002,

Applicant is unable to make any logical sense how the above passage or any other passage in Zahavi teaches or suggests the limitations in claims 32 and 33. The above passage is not performed by an agent.

Claim 32 recites "performing at least one calculation on the collected storage information at the data collection agent, the at least one calculation performed according to the data collection policy received by the data collection agent." As mentioned above, Zahavi discloses that "The data manager component 44 of the collection manager performs computations ... and builds flexibly configurable archives 46 of data received from the ... collection agent(s) according to the user specified policy."

Claim 33 further recites that the summary record generated by the agent includes computational results. Thus, these dependent claims should be allowable as well.

Conclusion

Applicant hereby petitions for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-3735.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned collect at (508) 616-9660, in Westborough, Massachusetts.

Respectfully submitted,

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Paul P. Kriz, Esq.
Attorney for Applicant(s)
Registration No.: 45,752
Chapin Intellectual Property Law, LLC
Westborough Office Park
1700 West Park Drive
Westborough, Massachusetts 01581
Telephone: (508) 616-9660
Facsimile: (508) 616-9661

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